# Eyelid and Tear Gland Disorders

Factsheet

The eyelids play a key role in protecting the eyes. They help spread moisture (tears) over the surface of the eyes when they close (for example, while blinking); thus, they help prevent the eyes from becoming dry. The eyelids also provide a mechanical barrier against injury, closing reflexively when an object comes too close to the eye. The reflex is triggered by the sight of an approaching object, the touch of an object on the surface of the eye, or the eyelashes being exposed to wind or small particles such as dust or sand.

Tears are a salty fluid that continuously bathes the surface of the eye to keep it moist. This fluid also contains antibodies that help protect the eye from infection. Tears are produced by the lacrimal (tear) glands, located near the outer corner of the eye. The fluid flows over the eye and exits through two small openings in the eyelids (lacrimal ducts); these openings lead to the nasolacrimal duct, a channel that empties into the nose.

If the lacrimal glands don't produce enough tears, the eyes can become painfully dry and can be damaged. A rare cause of inadequate tear production is Sjogren's syndrome. The eyes can also become dry when evaporation causes an excessive loss of tears, for example, if the eyelids don't close properly.

**Nasolacrimal Duct Blockage**

Blockage of the nasolacrimal duct (dacryostenosis) can result from inadequate development of the nasolacrimal system at birth, a chronic nasal infection, severe or recurring eye infections, or fractures of the nasal or facial bones. Blockage can be partial or complete.

Blockage caused by an immature nasolacrimal system usually results in an overflow of tears that runs down the cheek (epiphora) from one eye or, rarely, from both eyes in 3- to 12-week-old infants. This type of blockage usually disappears without treatment by the age of 6 months, as the nasolacrimal system develops. Sometimes the blockage resolves faster when parents are taught to milk the duct by gently massaging the area above it with a fingertip.

Regardless of the cause of the blockage, if inflammation of the conjunctiva (conjunctivitis) develops, antibiotic eyedrops may be needed. If the blockage doesn't clear up, an ear, nose, and throat specialist (otorhinolaryngologist) or an eye specialist (ophthalmologist) may have to open the duct with a small probe, usually inserted through the duct opening at the corner of the eyelid. Children are given general anesthesia for this procedure, but adults need only local anesthesia. If the duct is completely blocked, more extensive

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surgery may be needed.

**Lacrimal Sac Infection**

Usually, infection of the lacrimal sac (dacryocystitis) results from a blockage of the nasolacrimal duct. The infection makes the area around the sac painful, red, and swollen. The eye becomes red and watery and oozes pus. Slight pressure applied to the sac may push pus through the opening at the inner corner of the eye, near the nose. The person also has a fever.

If a mild or recurring infection continues for a long time, most of the symptoms may disappear, with only slight swelling of the area remaining. Sometimes, an infection causes fluid to be retained in the lacrimal sac, and a large fluid-filled sac (mucocele) forms under the skin. Recurring infections may produce a thickened, red area over the sac. An abscess may form and rupture through the skin, creating a passage for drainage.

The infection is treated with oral or intravenous antibiotics. Applying frequent warm compresses to the area also helps. If an abscess develops, surgery is performed to open and drain it. For chronic infections, the blocked nasolacrimal duct may be opened with a probe or by surgery. In rare instances, surgical removal of the entire lacrimal sac may be necessary.

**Eyelid Swelling**

Anything that irritates the eyes can also irritate the eyelids and cause swelling (lid edema). The most common irritant is an allergy, which can make one or both lids crinkled and swollen. Allergic reactions may be caused by medications instilled into the eyes, such as eyedrops; other drugs or cosmetics; or pollen or other particles in the air. Insect stings or bites as well as infections from bacteria, viruses, or fungi can also cause the eyelids to swell.

Removing the cause of swelling and applying cold compresses may relieve the swelling. If an allergy is the cause, avoiding the allergen can alleviate the swelling; a doctor may also prescribe drug therapy. If a foreign object such as an insect stinger is lodged in the eyelid, it must be removed.

**Eyelid Inflammation**

Inflammation of the eyelids (blepharitis) causes redness and thickening; scales and crusts or shallow ulcers often form on the eyelids, as well. Conditions that may occur with eyelid inflammation include staphylococcal infection on the eyelids and in the oil (sebaceous) glands at the edges of the

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lids, seborrheic dermatitis of the face and scalp, and rosacea.

Blepharitis may produce the feeling that something is in the eye. The eyes and lids may itch, burn, and become red. The eyelid may swell and some of the lashes may fall out. The eyes may become red, teary, and sensitive to bright light. A crust may form and stick tenaciously to the edges of the lid; when the crust is removed, it may leave a bleeding surface. During sleep, dried secretions make the lids sticky.

Blepharitis tends to recur and stubbornly resist treatment. It's inconvenient and unattractive but usually not destructive. Occasionally, it can result in a loss of the eyelashes, scarring of the lid margins, and even damage to the cornea.

Usually, treatment consists of keeping the eyelids clean, perhaps by washing them with baby shampoo. Occasionally, a doctor may prescribe an antibiotic ointment, such as erythromycin or sulfacetamide, or an oral antibiotic, such as tetracycline. When the person's skin is also affected with seborrheic dermatitis, the face and scalp must be treated as well.

**Stye**

A stye (hordeolum) is an infection, usually a staphylococcal infection, of one or more of the glands at the edge of the eyelid or under it.

An abscess forms and tends to rupture, releasing a small amount of pus. Styes sometimes form simultaneously with or as a result of blepharitis. A person may have one or two styes in a lifetime, but some people develop them repeatedly.

A stye usually begins with redness, tenderness, and pain at the edge of the eyelid. Then a small, round, tender, swollen area forms. The eye may water, become sensitive to bright light, and feel as though something is in it. Usually, only a small area of the lid is swollen, but sometimes the entire lid swells. Often a tiny, yellowish spot develops at the center of the swollen area.

Although antibiotics are used, they don't seem to help much. The best treatment is to apply hot compresses for 10 minutes several times a day. The warmth helps the stye come to a head, rupture, and drain. When a stye forms in one of the deeper glands of the eyelid, a condition called an internal hordeolum, the pain and other symptoms are usually more severe. Pain, redness, and swelling tend to occur in just a very small area, usually at the

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edge of the eyelid. Because this type of stye rarely ruptures by itself, a doctor may have to open it to drain the pus. Internal styes tend to recur.

**Chalazion**
A chalazion is an enlargement of a long, thin oil gland in the eyelid that results from an obstruction of the gland opening at the edge of the eyelid.

At first, a chalazion looks and feels like a stye: swollen eyelid, pain, and irritation. However, after a few days the symptoms disappear, leaving a round, painless swelling in the eyelid that grows slowly for the first week. A red or gray area may develop underneath the eyelid.

Most chalazions disappear without treatment after a few months. If hot compresses are applied several times a day, they may disappear sooner. If they remain after 6 weeks, a doctor can drain them or simply inject a corticosteroid.

**Entropion and Ectropion**
Entropion is a condition in which the eyelid is turned in against the eyeball. Ectropion is a condition in which the eyelid is turned outward and doesn't come in contact with the eyeball.

Normally, the upper and lower eyelids close tightly, protecting the eye from damage and preventing tear evaporation. If the edge of one eyelid turns in (entropion), the lashes rub against the eye, which can lead to ulceration and scarring of the cornea. If the edge of one eyelid turns outward (ectropion), the two eyelids can't meet properly, and tears aren't spread over the eyeball.

These conditions are more common in older people and in those who have had an eyelid injury that caused scar formation. Both conditions can irritate the eyes, causing tearing and redness. Both can be treated by surgery, if necessary.

**Eyelid Tumors**
Noncancerous (benign) and cancerous (malignant) growths can form on the eyelids. One of the most common types of benign tumor is xanthelasma, a yellow-white, flat growth that consists of fatty material. Xanthelasmas needn't be removed unless their appearance becomes bothersome. Because xanthelasmas may indicate elevated cholesterol levels (especially in young people), a doctor will check the person's cholesterol level.

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Squamous cell carcinoma and the more common basal cell carcinoma, both cancerous growths, can develop on the eyelid as well as on many other areas of the skin. If a growth on the eyelid doesn't disappear after several weeks, a doctor may perform a biopsy (removal of a specimen and examination under a microscope), and the growth is treated, usually with surgery.

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